



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,836	01/16/2004	Howard Fein	PRP104US	6969

23623 7590 01/09/2006

AMIN & TUROCY, LLP
1900 EAST 9TH STREET, NATIONAL CITY CENTER
24TH FLOOR,
CLEVELAND, OH 44114

EXAMINER


LIVEDALEN, BRIAN J

ART UNIT	PAPER NUMBER
----------	--------------

2878

DATE MAILED: 01/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/758,836	Applicant(s) FEIN ET AL. 	
	Examiner Brian J. Livedalen	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/16/2004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 3, 10, 11, 15, 18, and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 2, 3, 10, 11, 15, 18, and 19 recites the broad recitation in claims 1, 9, and 16 regarding the dimensions of pixel area, pixel pitch, diffraction limited spot size within a given range, and the claim

also recites the same parameters more narrowly defined in dependent claims 2, 3, 10, 11, and 15 which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6, and 16-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Harris et al. (6388788).

In regard to claims 1 and 16, Harris discloses (fig. 6) an imaging system having a sensor (520) having pixels, the pixels having a pixel area between .01 microns² and 600 microns² (column 16, lines 20-21); and an image transfer medium having a diffraction limited spot size area in the object plane between .0003 microns² and 600 microns² (column 16, lines 23-26); wherein the pixels projected through the image transfer medium have a projected pixel area in the object plane between .0003 microns² and 600 microns² (column 26, lines 27-31); the ratio of the projected pixel area in the object plane to the diffraction limited spot size area in the object plane is from about 5:1 to about 1:12. The widths and diameter dimensions are also met as well

Art Unit: 2878

as the ratio of 1.9:1 to about 1:1.9 because Harris discloses achieving true resolution which would provide a 1:1 ratio.

In regard to claims 2-4, 6, and 17-20; Harris discloses the diffraction limited spot size area in the object plane between .01 microns² and 100 microns² (column 16, lines 23-26); wherein the pixels projected through the image transfer medium have a projected pixel area in the object plane between .01 microns² and 100 microns² (column 26, lines 27-31); the ratio of the projected pixel area in the object plane to the diffraction limited spot size area in the object plane is from about 5:1 to about 1:12. Harris further discloses the pixels being square and the same shape (column 16, lines 19-21), thus the width dimensions are also met as set forth above. Harris also discloses (fig. 6) that the image transfer medium has at least two lenses (470, 490). Harris further discloses (fig. 6) a light source (440, 410) providing at least about 75% of the illumination having a wavelength range from about 100 nm to about 2000 nm (column 6, lines 40-45).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harris et al. (6388788) as applied to claim 1, and in further view of Merrill (5965875).

In regard to claim 5, Harris discloses an imaging system with pixels. Harris fails to disclose two subsets of pixels wherein the pixels of the subsets have a different size. However, Merrill discloses (fig. 6) a sensor which has two subsets of pixels in which the lower subset (102) is larger than the upper subset (104) (column 4, lines 45-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make two subsets of pixels with different sizes in order to accurately detect colors.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris et al. (6388788) as applied to claim 1, and in further view of Connolly (6198147).

In regard to claims 7 and 8, Harris discloses an imaging system with pixels. Harris fails to disclose a plurality of stacked pixels wherein each pixel in the stack is the same size. However, Connolly discloses (fig. 1) an imager with two stacked pixels (12, 16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use stack pixels in order to accurately detect colors without using filters. Harris in view of Connolly further discloses each stack having two pixels.

Claims 9-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris et al. (6388788) as applied to claim 16, in further view of Vock (5798519).

In regard to claim 9, Harris discloses (fig. 6) a sensor (520) having pixels, the pixels having a width between .1 microns and 20 microns (column 16, lines 20-21); and an image transfer medium having a diameter between .01 microns and 20 microns (column 16, lines 23-26); wherein pixels projected through the image transfer medium have a projected pixel diameter in the object plane between .01 microns and 20 microns (column 26, lines 27-31); the ratio of the projected pixel width in the object plane to the diffraction limited spot diameter in the object plane is from about 1:1.9 to about 1.9:1. Harris remains silent regarding the pitch of the pixels. However, Vock discloses (fig. 6a) an array of pixels that are directly adjacent to one another (column 13, lines 107). It would have been obvious to one of ordinary skill in the art at the time the invention was made to place the pixels directly adjacent to one another to obtain the greatest possible precision in detection. Harris in view of Vock discloses placing the pixels adjacent to one another. Therefore, the pitch is equal to the width of the pixel so Harris in view of Vock discloses the pixels having a pitch between .1 microns and 20 microns (column 16, lines 20-21); the ratio of the projected pixel pitch in the object plane to the diffraction limited spot diameter in the object plane is from about 1:1.9 to about 1.9:1 because Harris discloses achieving true resolution which would provide a 1:1 ratio.

In regard to claims 10-13 and 15, Harris in view of Vock discloses (fig. 6) the projected pixel pitch between .1 microns and 10 microns (column 16, lines 20-21); and the diffraction limited spot diameter is between .1 microns and 10 microns (column 16, lines 23-26); and the ratio of the projected pixel pitch to the diffraction limited spot

Art Unit: 2878

diameter is from about 1:1.25 to about 1.3:25. Harris in view of Vock further discloses (fig. 6) a plurality of lenses having an objective lens (490) and a transfer lens (470).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harris et al. (6388788) in view of Vock (5798519) as applied to claim 9, and in further view of Connolly (6198147).

In regard to claim 14, Harris in view of Vock discloses an imaging system with pixels. Harris in view of Vock fails to disclose a plurality of stacked pixels wherein each pixel in the stack is the same size. However, Connolly discloses (fig. 1) an imager with two stacked pixels that detect different wavelengths (12, 16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use stack pixels in order to accurately detect colors without using filters.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Livedalen whose telephone number is (571) 272-2715. The examiner can normally be reached on 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2878

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

bjl



THANH X. LUU
PATENT EXAMINER